IN THE CLAIMS:

Please amend claims 6 and 10 as shown below, in which deleted terms are indicated with strikethrough and/or double brackets, and added terms are indicated with underscoring. The following list of claims replaces all previous versions, and listings of claims in the application.

1. (Original) A method for compositing a computer-graphics image and a picture taken by a camera comprising:

defining a three-dimensional model, a viewpoint, and a plane of projection, in a space established on a computer;

defining lines of sight extending from the viewpoint to projection pixels on the plane of projection so that each of the lines of sight conforms with a ray of light incident on a pixel corresponding thereto of the picture taken by the camera;

tracing the lines of sight extending from the viewpoint through the plane of projection and the three-dimensional model to obtain attributes of portions of the three-dimensional model corresponding to the projection pixels, thereby forming a two-dimensional image of the three-dimensional model on the plane of projection; and

superposing the two-dimensional image on the picture to generate a composite image.

2. (Original) The method of claim 1, further comprising providing a calibration table having first data and second data correlated with each other, the first data concerning positions of pixels of the picture taken by the camera and the second data concerning directions and positions of rays of light incident on the pixels of the picture, wherein the lines of sight are defined based upon the directions and positions of the rays of light incident on the pixels of the picture corresponding to

the projection pixels, obtained by looking up the second data with the first data in the calibration table.

3. (Original) An apparatus for compositing a computer-graphics image created by rendering a three-dimensional model and a picture taken by a camera, comprising:

a calibration table storage unit for storing a calibration table having first data and second data correlated with each other, the first data concerning positions of pixels of the picture taken by the camera and the second data concerning directions and positions of rays of light incident on the pixels of the picture;

a line-of-sight calculation unit for obtaining lines of sight extending from a viewpoint to the three-dimensional model, based upon the directions and positions of the rays of light incident on the pixels of the picture, obtained by looking up the second data with the first data in the calibration table, so that each of lines of sight passing through projection pixels on a plane of projection conforms with a ray of light incident on a pixel corresponding thereto of the picture taken by the camera;

a two-dimensional image generation unit for generating a two-dimensional image on the plane of projection from the three-dimensional model by tracing the lines of sight so as to obtain attributes of portions of the three-dimensional model corresponding to the projection pixels on the plane of projection; and

a composite image generation unit for superposing the two-dimensional image on the picture, to generate a composite image.

4. (Original) The apparatus of claim 3, wherein each piece of the second data of the calibration

table includes a direction in which a ray of light strikes on a pixel of the picture and a displacement from a base point to the incident light.

5. (Original) The apparatus of claim 3, wherein one piece of the second data of the calibration table includes coordinates of two points on the incident light.

6. (Currently amended) A program embodied on a computer readable medium for compositing a computer-graphics image and a picture taken by a camera, the program ~~capable of~~ causing a computer to perform the steps of:

defining a three-dimensional model, a viewpoint, and a plane of projection, in a space established on a computer;

defining lines of sight extending from the viewpoint to projection pixels on the plane of projection so that each of the lines of sight conforms with a ray of light incident on a pixel corresponding thereto of the picture taken by the camera;

tracing the lines of sight extending from the viewpoint through the plane of projection and the three-dimensional model to obtain attributes of portions of the three-dimensional model corresponding to the projection pixels, thereby forming a two-dimensional image of the three-dimensional model on the plane of projection; and

superposing the two-dimensional image on the picture to generate a composite image.

7. (Original) A method for rendering a three-dimensional model created by computer graphics into a two-dimensional image to be superposed on a picture taken by a camera to form a composite image, the method comprising:

defining a viewpoint, and a plane of projection, in a space established on a computer where the three-dimensional model is located;

defining lines of sight extending from the viewpoint to projection pixels on the plane of projection so that each of the lines of sight conforms with a ray of light incident on a pixel corresponding thereto of the picture taken by the camera;

tracing the lines of sight extending from the viewpoint through the plane of projection and the three-dimensional model to obtain attributes of portions of the three-dimensional model corresponding to the projection pixels; and

setting the obtained attributes of the portions of the three-dimensional model to the projection pixels corresponding thereto, to form a two-dimensional image of the three-dimensional model on the plane of projection.

8. (Original) The method of claim 7, further comprising providing a calibration table having first data and second data correlated with each other, the first data concerning positions of pixels of the picture taken by the camera and the second data concerning directions and positions of rays of light incident on the pixels of the picture, wherein the lines of sight are defined based upon the directions and positions of the rays of light incident on the pixels of the picture corresponding to the projection pixels, obtained by looking up the second data with the first data in the calibration table.

9. (Original) An apparatus for rendering a three-dimensional model created by computer graphics into a two-dimensional image to be superposed on a picture taken by a camera to form a composite image, the apparatus comprising:

a calibration table storage unit for storing a calibration table having first data and second data correlated with each other, the first data concerning positions of pixels of the picture taken by the camera and the second data concerning directions and positions of rays of light incident on the pixels of the picture;

a line-of-sight calculation unit for obtaining lines of sight extending from a viewpoint to the three-dimensional model, based upon the directions and positions of the rays of light incident on the pixels of the picture, obtained by looking up the second data with the first data in the calibration table, so that each of lines of sight passing through projection pixels on a plane of projection conforms with a ray of light incident on a pixel corresponding thereto of the picture taken by the camera; and

a two-dimensional image generation unit for generating the two-dimensional image on the plane of projection from the three-dimensional model by tracing the lines of sight so as to obtain attributes of portions of the three-dimensional model corresponding to the projection pixels on the plane of projection.

10. (Currently amended) A program embodied on a computer readable medium for rendering a three-dimensional model created by computer graphics into a two-dimensional image to be superposed on a picture taken by a camera to form a composite image, the program ~~capable of~~ causing a computer to perform the steps of:

defining a viewpoint, and a plane of projection, in a space established on a computer where the three-dimensional model is located;

defining lines of sight extending from the viewpoint to projection pixels on the plane of projection so that each of the lines of sight conforms with a ray of light incident on a pixel

corresponding thereto of the picture taken by the camera;

tracing the lines of sight extending from the viewpoint through the plane of projection and the three-dimensional model to obtain attributes of portions of the three-dimensional model corresponding to the projection pixels; and

setting the obtained attributes of the portions of the three-dimensional model to the projection pixels corresponding thereto, to form a two-dimensional image of the three-dimensional model on the plane of projection.

11. (Previously presented) The program of claim 6, further comprising a calibration table having first data and second data correlated with each other, the first data concerning positions of pixels of the picture taken by the camera and the second data concerning directions and positions of rays of light incident on the pixels of the picture, wherein the lines of sight are defined based upon the directions and positions of the rays of light incident on the pixels of the picture corresponding to the projection pixels, obtained by looking up the second data with the first data in the calibration table.

12. (Previously presented) The program of claim 10, further comprising a calibration table having first data and second data correlated with each other, the first data concerning positions of pixels of the picture taken by the camera and the second data concerning directions and positions of rays of light incident on the pixels of the picture, wherein the lines of sight are defined based upon the directions and positions of the rays of light incident on the pixels of the picture corresponding to the projection pixels, obtained by looking up the second data with the first data in the calibration table.